

WHAT IS CLAIMED IS:

1. A recombinant expression vector comprising a heterologous promoter operably linked to an expressed polynucleotide which naturally encodes an Afc1 polypeptide, wherein said polypeptide mediates the proteolytic removal of an AAX tripeptide from a prenylated CAAX protein.
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2. A vector according to claim 1, wherein the polynucleotide comprises SEQ ID NO:1.
3. A vector according to claim 1, wherein the polypeptide comprises SEQ ID NO:2.
4. An isolated polynucleotide comprising SEQ ID NO:6 hybridized to an Afc1 transcript.
5. A recombinant expression vector comprising a promoter operably linked to an expressed polynucleotide which naturally encodes an Rce1 polypeptide, wherein said polypeptide mediates the proteolytic removal of an AAX tripeptide from a prenylated CAAX protein.
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6. A vector according to claim 5, wherein the polynucleotide comprises SEQ ID NO:3.
7. A vector according to claim 5, wherein the polypeptide comprises SEQ ID NO:4.
8. An isolated polynucleotide comprising SEQ ID NO:5 hybridized to an Rce1 transcript.
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9. A recombinant cell transduced with the vector of claim 1.
10. A recombinant cell transduced with the polynucleotide of claim 4.
11. A recombinant cell transduced with the vector of claim 5.
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12. A recombinant cell transduced with the polynucleotide of claim 8.
13. A method for making a polynucleotide according to claim 4, the method comprising the step of hybridizing a polynucleotide comprising SEQ ID NO:6 with an Afc1 transcript to form a polynucleotide according to claim 4.

14. A method for making a polynucleotide according to claim 8, the method comprising
25 the step of hybridizing a polynucleotide comprising SEQ ID NO:5 with an RCE1 transcript
to form a polynucleotide according to claim 8.
15. A method of identifying a compound which inhibits the proteolytic removal of an
AAX tripeptide of a CAAX protein in a cell, the method comprising steps:
30 contacting a sample comprising a recombinant cell according to claim 9, or lysate
thereof with a test compound; and
measuring activity or expression of the Afc1p or Rce1p expressed by the cell,
wherein compound-dependent inhibition of the activity or expression indicates that the
compound inhibits the proteolytic removal of the AAX tripeptide.
16. A method of identifying a compound which inhibits the proteolytic removal of an
35 AAX tripeptide of a CAAX protein in a cell, the method comprising steps:
contacting a sample comprising a recombinant cell according to claim 10, or lysate
thereof with a test compound; and
measuring activity or expression of the Afc1p or Rce1p expressed by the cell,
wherein compound-dependent inhibition of the activity or expression indicates that the
40 compound inhibits the proteolytic removal of the AAX tripeptide.
17. A method of identifying a compound which inhibits the proteolytic removal of an
AAX tripeptide of a CAAX protein in a cell, the method comprising steps:
contacting a sample comprising a recombinant cell according to claim 11, or lysate
thereof with a test compound; and
45 measuring activity or expression of the Afc1p or Rce1p expressed by the cell,
wherein compound-dependent inhibition of the activity or expression indicates that the
compound inhibits the proteolytic removal of the AAX tripeptide.
18. A method of identifying a compound which inhibits the proteolytic removal of an
AAX tripeptide of a CAAX protein in a cell, the method comprising steps:
50 contacting a sample comprising a recombinant cell according to claim 12, or lysate
thereof with a test compound; and
measuring activity or expression of the Afc1p or Rce1p expressed by the cell,
wherein compound-dependent inhibition of the activity or expression indicates that the
compound inhibits the proteolytic removal of the AAX tripeptide.

- 55 19. A method of identifying a compound which inhibits Rce1p activity or Afc1p activity, the method comprising steps:
 expressing from a polynucleotide according to claim 4 an Afc1 or Rce1 polypeptide;
 isolating the polypeptide;
60 contacting a test compound to a sample comprising the isolated polypeptide; and
 measuring an activity selected from the group consisting of Afc1p activity, Rce1p activity, Afc1p expression, and Rce1p expression,
 wherein compound-dependent inhibition of the activity indicates that the compound inhibits Rce1p activity or Afc1p activity.
- 65 20. A method of identifying a compound which inhibits Rce1p activity or Afc1p activity, the method comprising steps:
 expressing from a polynucleotide according to claim 8 an Afc1 or Rce1 polypeptide;
 isolating the polypeptide;
70 contacting a test compound to a sample comprising the isolated polypeptide; and
 measuring an activity selected from the group consisting of Afc1p activity, Rce1p activity, Afc1p expression, and Rce1p expression,
 wherein compound-dependent inhibition of the activity indicates that the compound inhibits Rce1p activity or Afc1p activity.